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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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Soyeon (Karen) P. Laub
HOGAN & HARTSON L.L.P.
Biltmore Tower
500 South Grand Avenue, Suite 1900
Los Angeles, CA 90071

EXAMINER

JONES, STEPHEN E

ART UNIT

PAPER NUMBER

2817

DATE MAILED: 03/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/990,144

Applicant(s)

LAO ET AL.

Examiner

Stephen E. Jones

Art Unit

2817

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-83 is/are pending in the application.
- 4a) Of the above claim(s) 10, 16 and 31-80 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-15, 17-30 and 81-83 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-83 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Species I. (Fig. 3a) in Paper No. 7 is acknowledged. Applicant did not submit any reasons for the traverse. Therefore, the requirement is still deemed proper and is therefore made FINAL.

Applicant indicated that Claims 1-30 and 81-83 read on the elected species. However, upon examination it appears that Claims 10 and 16 more appropriately read on a non-elected invention. Regarding Claim 16, Fig. 3a requires a single layer substrate as opposed to the multi-layer substrate recited in claim 16, and it appears that Claim 10 more appropriately reads on Fig. 6 (species IV.) which shows that the wide portion is close to the inner edge of the substrate.

2. Accordingly, Claims 10, 16 and 31-80 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 7.

Specification

3. The disclosure is objected to because of the following informalities:

The first page of the specification should include the title of the invention.

Also, the reference to a related application needs to be updated (i.e. Application No. --09/990,247--.

On page 8, line 13, it appears that the term "stripeline" should read as --stripline-- as is conventional.

Appropriate correction is required.

Claim Objections

4. Claim 30 is objected to because of the following informalities:

The use of numbers in parenthesis to identify items in a claim does not follow common U.S. Patent format and makes it difficult to follow the recited items throughout the body of the claim. Also, the use of numbers in parenthesis in claims are typically used to refer to item numbers in the figures.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 21-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding Claim 21, the recited "means for providing transmission paths" appears to be redundant with the recited "means for providing a pair of microstrips" since both recitations provide the "transmission paths" (i.e. microstrips are transmission paths) thus rendering the claim vague and indefinite.

Claim 28 contains the trademark/trade name "Gilbert". Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second

paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe connectors and, accordingly, the identification/description is indefinite.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1-9, 11-15, 17-30, and 81-83 (insofar as claims 21-22 and 28 could be understood) are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art Fig. 1 in view of James et al.

The admitted prior art Fig. 1 (and pages 2-4 of the background of the invention describing Fig. 1) teaches an IC package including all of the subject matter of the claims with the exception of the following: that the pair of microstrips have a substantially constant impedance throughout the length (Claims 1, 21, 23, 25, 30); that the width increases as the conductors are outwardly routed and increases capacitance (Claims 2, 9, 11, 22, 24, 29, 82); that the signals are operating at least 20 Gbps (Claim 6); that the width of the pair along the first partial length is not more than 5 mils and the spacing between the pair along the first partial length is not more than 5 mils (Claim 12); or a plurality of non-coaxial conductors on a second outer edge of the substrate (Claim 81).

James et al. (Fig. 2) teaches an IC routing including: signal lines having widening portions as the line is routed away from the IC; the widened portions in combination with the uniform narrow portions compensate for mutual impedance (i.e. capacitance between adjacent lines) such that the characteristic impedance is constant (see Col. 5, lines 6-67).

It would have been considered obvious to one of ordinary skill in the art to have substituted widening signal lines such as taught by James et al. in place of the lines in the admitted prior art Fig. 1, because it would have provided the advantageous benefit of increased signal integrity and reduced crosstalk and a substantially constant

impedance throughout the entire length of the lines (see James, Col. 2, lines 65-67), thereby suggesting the obviousness of such a modification.

Also, it would have been considered obvious to one of ordinary skill in the art to have chosen the signals to be operating at least 20 Gbps, because such an operating speed would have been a well-known high frequency signal rate for the high frequency device such as taught by the combination of the admitted prior art Fig. 1 and James et al.

Additionally, it would have been considered obvious to one of ordinary skill in the art to have selected the width of the pair along the first partial length to be not more than 5 mils and the spacing between the pair along the first partial length to be not more than 5 mils, because it would have been considered a mere optimization of the signal lines to obtain a pre-selected impedance value in the combination of the admitted prior art Fig. 1 and James structure.

Furthermore, it would have been considered obvious to one of ordinary skill in the art to have included an outer edge of the substrate to have non-coaxial connectors in the combination of the admitted prior art Fig. 1 and James et al. device, because the non-coaxial connectors would have provided a particular pre-selected connector means for connection of additional types of devices or conductors, thereby suggesting the obviousness of such a modification.

Regarding Claim 3, since the combination of the admitted prior art Fig. 1 and James et al. (as described above) teaches the same structure as is claimed the

equation of Claim 3 would inherently be satisfied by the combination of the admitted prior art Fig. 1 and James et al. as well.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kondoh et al. teaches non-microstrip conductors having narrow and wide portions.

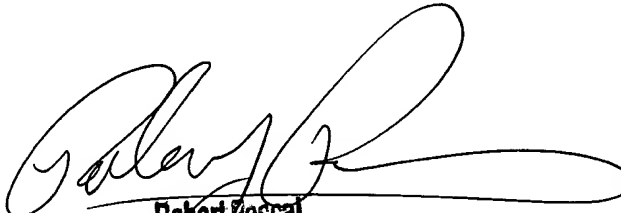
Rosenberger teaches an IC on a substrate.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen E. Jones whose telephone number is 703-305-0390. The examiner can normally be reached on Monday through Friday from 8 AM to 4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Pascal can be reached on 703-308-4909. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-6251 for regular communications and 703-308-6251 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

SEJ
March 18, 2003



Robert J. Pascal
Supervisor Patent Examiner
Technology, Patent 2817